

MVN 豎軸多段透平泵

MVN SERIES VERTICAL TYPE
LONG-SPINLE DEEP WELL PUMP



ISO-9001 ISO14001

川源股份有限公司
GSD INDUSTRIAL CO., LTD.

MVN 豎軸多段透平泵

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用途：

1. 深井抽水供農田灌溉
2. 工廠及事業單位用水抽送
3. 原水及海水之抽送

特點：

1. 佔地面積小
安裝時僅有裝設在出口座上之立式電機及出口座露於基礎座上，大幅減少佔地面積。
2. 效率高
葉輪經多次實驗與修正，大幅提高此型泵浦效率，明顯降低用戶動力成本，節省運轉費用。
3. 無吸入揚程之困擾
此型泵浦因葉輪及泵體部分深入水中，故吸入揚程不受限制。
4. 軸功率變化小
此型泵浦之軸功率不因水量之改變而有明顯的變化。提高泵浦之可靠性及運轉壽命。
5. 操作簡便
因泵體深入水下，並有防止逆轉裝置，故可直接啓動。
6. 易於保養
結構精簡，零組件少，可靠度高，易於維護保養。

Application

1. Water drawing from deep well for irrigation.
2. Water supply and discharge in industrial applicatinos.
3. Intake and drainage of water.

Features

1. Smaller Occupied Space
There are only the pump seat and the motor on the base, it greatly decrease the installation space.
2. Highly Efficiency
With experiments and modification of impeller design, it apparently decreases the power consumption and the running cost.
3. No Limitation About Suction Head
Because of the submergence of the pumping part, there is no limitation about suction head.
4. Little Variation in Shaft Power
There is only little variation in the shaft power while the capacity changes. It promotes the reliability and service life of the pump.
5. Convenient Operation
There is an anti-reverse ratchet mechanism, and the pump is submersible, it can be easily started.
6. Easy Maintenance
Compact structure, high reliability and easy maintenance.

型號編號原則



結構：

機組結構由泵體部分、裝有傳動軸的揚水管部分、泵座與電動機或間接傳動裝置三部分組成。前兩部分位於井下，第三部分位於井上，其結構特性如下：

1. 進水殼
入水口採鐘形設計，以減少摩擦損失。
2. 葉輪
葉輪經多次實驗及流場分析，嚴格控制鑄造品質，提高流道光滑程度，並經動、靜平衡校正，大幅提昇泵效率及運轉時之穩定性。
3. 導流殼
採用進口邊與葉輪葉片出口邊平行的混流式空間導葉，其特點是徑向尺寸小，節省空間，且效率高。
4. 主軸
包括上傳動軸、下傳動軸及泵軸三部分，材質方面，均採用優質碳素鋼或不銹鋼材，若泵送污水則在軸心外加護管，以保護軸心及軸承。
5. 揚水管
每支標準長度 2 m，為凸緣接頭，接合處加裝軸承支架，以軸承固定軸心位置，確保運轉之穩定性。
6. 出口泵座
出口彎頭經實驗及修正，將能量損失降至最低。
7. 潤滑
如泵送液體為常溫無雜質，不致造成主軸損壞，直接以此液作為滑動軸承之潤滑液。如抽送污水或易損壞主軸之液體，於主軸及軸承外套裝護管，並於護管內導入清水或其它液體進行潤滑。

Structure

The machine consists of pump casing, discharge pipe with driving spindle and pump seat and motor or indirect transmission mechanism. The former two parts work in well and the later above well. The characteristics of the structure are described as followed:

1. Inlet casing
The bell-shaped inlet casing reduces the friction loss.
2. Impeller
The impeller is designed by many experiments and flow field analyses, strictly controlled the casting quality, improved the smoothness of the flow field, and balanced both statically and dynamically, it improves the efficiency and stability greatly.
3. Diffusion Casing
The diffusion casing is mixed-flow type with its inlet parallel to the outlet of the blade of the impeller. It has the characteristics of small radial dimensions, saving space, and highly efficiency.
4. Shaft
Including upper transmission shaft, lower transmission shaft and pump shaft, the materials are fine carbon steel or stainless steel. The transmission shafts adopt protection pipe to protect the shaft and bearings while pumping sewage.
5. Discharge pipe
The standard length is 2m with flange connection, and adopting guide bearing to fix the shaft to ensure the running stability.
6. Pump seat
With experiments and modifications, the head loss of the discharge elbow is lowest.
7. Lubrication
If the pumping fluid contains no impurity or is harmless to the shaft, the fluid can be used as lubricant itself. Otherwise we adopt protection pipe and lead water or other fluid into the pipe as the lubricant.

8. 軸承

a. 滾動軸承

於馬達座上，一為徑向滾珠軸承，一為止推滾珠軸承。止推軸承用以承受軸向推力負荷，防止零組件之破壞。

b. 滑動軸承

其餘軸承均為滑動軸承，目的為使主軸及旋轉部件不因此型泵長軸特性造成偏心及損壞，而具引導及固定之功能。

8. Bearing

a. Rolling bearing

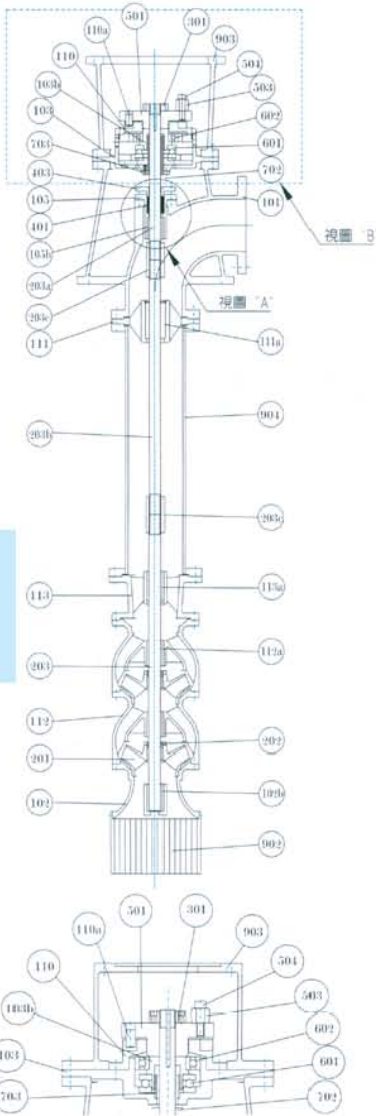
There are two bearings on the motor seat, one is a radial ball bearing, the other is a thrust bearing. The thrust bearing bears the axial load to prevent the pump from damage.

b. Sliding bearing

The other bearings are all sliding bearings to prevent the rotating parts from damage caused by eccentricity of the long spindle.

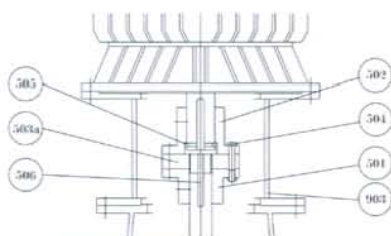
*開放式軸 (Open Shaft)

零件表 (Materials of Construction)

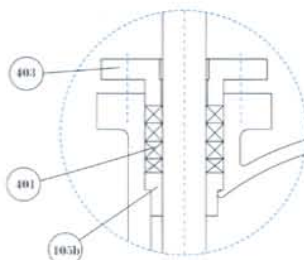


No.	Component	Material			No.	Component	Material		
		A	B	C			A	B	C
101	出口座 Discharge head	FC200	SCS13	SCS14	401	填料蓋 Gland	FC200	SCS13	SCS14
102	入口殼 Suction bellmouth	FC200	SCS13	SCS14	403	填料 Packing	V#133	V#7133	V#7133
102b	水中軸承 Bearing	Be+Rubber	TEFLON+ CARBON	TEFLON+ CARBON	405	機械軸封 Mechanical Seal			
103	軸承箱 Bearing housing	FC200	FC20	FC20	406	軸封押蓋 Seal Cover	FC200	SUS304	SUS316
103b	軸承裏襯 Bearing block	SS400	SS41	SS41	407	軸封固定環 Seal seat	BC6	SUS304	SUS316
105	填料函殼 Stuffing Box	FC200	SCS13	SCS14	408	軸套筒 sleeve	SUS304	SUS304	SUS316
105b	軸套 Sleeve	BC6	TEFLON+ CARBON	TEFLON+ CARBON	409	墊片 Seal	SUS304	SUS304	SUS316
110	逆止盤 Ratchet wheel	FC200	FC20	FC20	410	固定環 Seal	SUS304	SUS304	SUS316
110a	逆止杆 Ratchet Bar	SUS410	SUS410	SUS410	501	聯軸器 Coupling	FC200	FC200	FC200
110	中間托架 Shafting bracket	FC200	SCS13	SCS14	502	聯軸器 Coupling	FC200	FC200	FC200
110a	水中軸承 Bearing	Be+Rubber	TEFLON+ CARBON	TEFLON+ CARBON	503	聯軸器橡膠 Coupling training	Rubber	Rubber	Rubber
112	導輪 Outside Vane	FC20	SCS13	SCS14	503a	調整片 Sleeve	SS400	SS400	SS400
112a	水中軸承 Bearing	BC6 Be+Rubber	TEFLON+ CARBON	TEFLON+ CARBON	504	聯軸器螺栓 Bolt and Nut	SS400	SS400	SS400
113	出口殼 Discharge Casting	FC20	SCS13	SCS14	505	分割環 Lamborn ring	SS400	SS400	SS400
113a	水中軸承 Bearing	BC6	TEFLON+ CARBON	TEFLON+ CARBON	506	聯軸器銷 Coupling Pin	SS400	SS400	SS400
201	葉輪 Impeller	BC6	SCS13	SCS14	601	止推軸承 Thrust Bearing			
202	料套 Adapter	SS400	SUS304	SUS316	602	球軸承 Ball Bearing			
203	泵軸 Pump Shaft	SUS410	SUS304	SUS316	702	擋水環 Water flange	Rubber	Rubber	Rubber
203a	頂軸 Head Shaft	SUS410	SUS304	SUS316	703	封油管 Oil Guard Pipe	SS400	SS400	SS400
203b	柱軸 Line Shaft	SUS410	SUS304	SUS316	902	濾網 Strainer	SUS304	SUS304	SUS316
203c	軸接頭 Shaft Coupling	SS400	SUS304	SUS316	903	馬達座 Motor Pedestal	FC200	FC200	FC200
301	調整螺母 Shaft adjusting	SS400	SS400	SS400	904	柱管 Column pipe	SGP	SUS304	SUS316

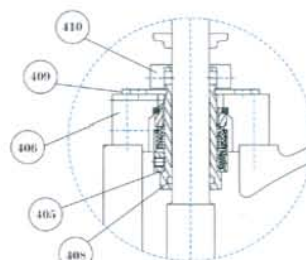
視圖 " B " 20HP4P 以下



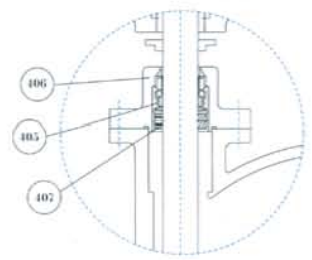
視圖 " B " 200HP4P 以上



視圖 " A " 填料軸封 40HP4P 以下



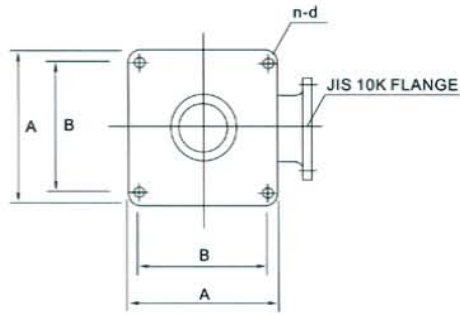
視圖 " A " 軸封 T-520 型



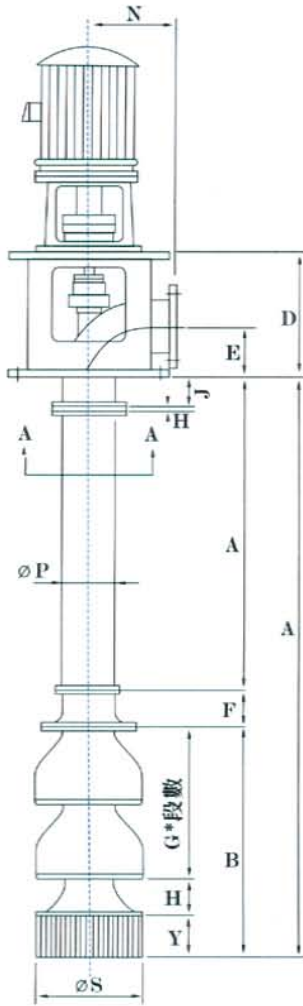
視圖 " A " 軸封 EA-560 型

上述材質以外之需求可依客戶需求制作 Specified Materials are available on request.

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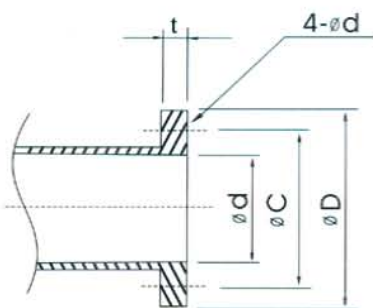


A-A SECTION



豎軸泵軸外型尺寸圖
(VERTICAL CENTRIFUGAL PUMP DIMENSIONS)

尺寸 型式	尺寸															
	□徑	φP	D	E	J	N	M	W	n-d	Y	φS	H	G	F	I	備注
MVN-80	φ80	80	285	115	90	242	380	300	4-φ15	100	180	120	135	100	0	
	φ100	100	314	132	90	260	380	300	4-φ15	100	180	120	135	100	0	
MVN-100 MVN-100A	φ100	100	314	132	90	260	380	300	4-φ15	100	200	140	165	100	0	
	φ125	125	314	130	90	268	380	300	4-φ15	100	200	140	165	100	0	
MVN-125	φ125	125	314	130	90	268	380	300	4-φ15	150	235	150	195	100	0	
	φ150	150	353	170	100	260	450	380	4-φ19	150	235	150	195	100	14	40hp(含)以下
	φ150	150	420	170	100	300	550	480	4-φ23	150	235	150	195	100	14	50hp(含)以上
MVN-150 MVN-150A	φ150	150	353	170	100	260	450	380	4-φ19	150	280	180	228	150	14	40hp(含)以下
	φ150	150	420	170	100	300	550	480	4-φ23	150	280	180	228	150	14	50hp(含)以上
	φ200	200	460	200	120	330	520	450	4-φ23	150	280	180	228	150	15	40hp(含)以下
	φ200	200	520	200	100	330	600	500	4-φ23	150	280	180	228	150	15	50hp(含)以上
MVN-150B	φ150	150	353	170	100	260	450	380	4-φ19	150	300	180	260	150	14	40hp(含)以下
	φ150	150	420	170	100	300	550	480	4-φ23	150	300	180	260	150	14	50hp(含)以上
	φ200	200	460	200	120	330	520	450	4-φ23	150	300	180	260	150	15	40hp(含)以下
	φ200	200	520	200	100	330	600	500	4-φ23	150	300	180	260	150	15	50hp(含)以上
MVN-200	φ200	200	460	200	120	330	520	450	4-φ23	200	330	200	300	170	15	40hp(含)以下
	φ200	200	520	200	100	330	600	500	4-φ23	200	330	200	300	170	15	50hp(含)以上
	φ250	250	570	250	100	350	600	500	4-φ23	200	330	200	300	170	18	
MVN-200A	φ200	200	460	200	120	330	520	450	4-φ23	250	360	180	330	170	15	40hp(含)以下
	φ200	200	520	200	100	330	600	500	4-φ23	250	360	180	330	170	15	50hp(含)以上
	φ250	250	570	250	100	350	600	500	4-φ23	250	360	180	330	170	18	
MVN-200B	φ200	200	460	200	120	330	520	450	4-φ23	250	360	180	310	170	15	40hp(含)以下
	φ200	200	520	200	100	330	600	500	4-φ23	250	360	180	310	170	15	50hp(含)以上
	φ250	250	570	250	100	350	600	500	4-φ23	250	360	180	310	170	18	



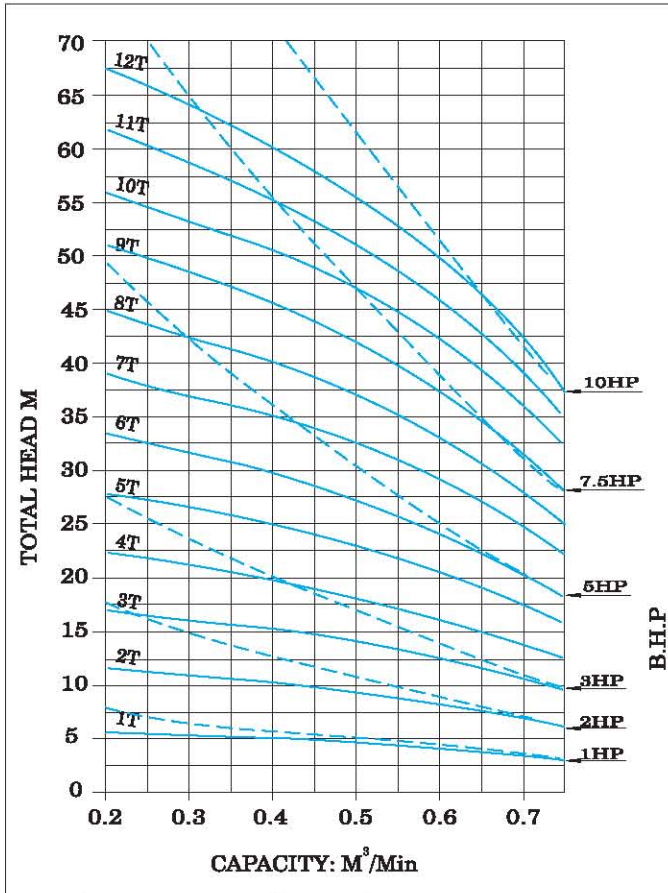
法蘭尺寸 (FLANGE DIMENSIONS)

Unit:mm.

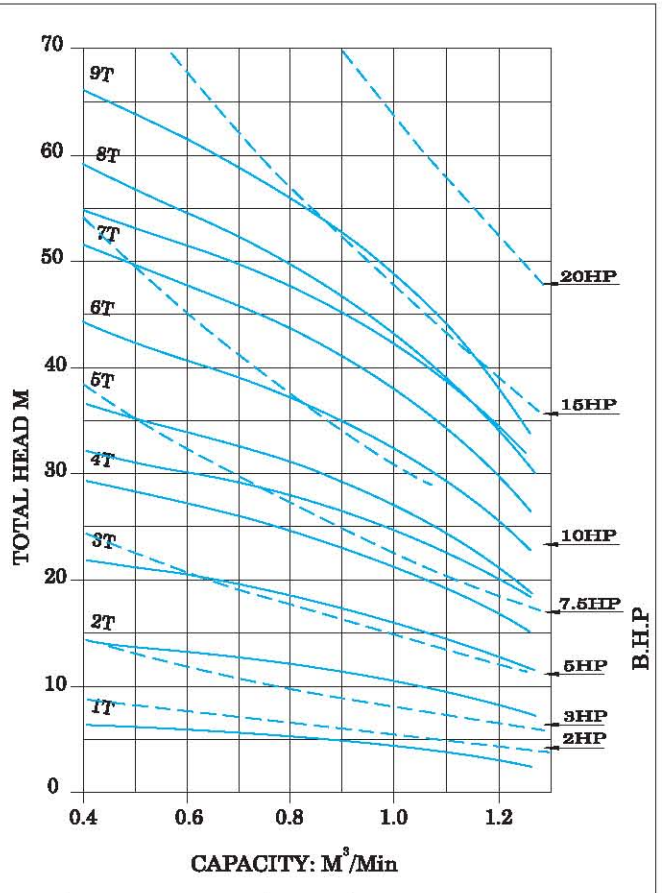
□徑	日規: J1s 10kg/cm ²			美規ANSI#150FF			
	φd	φD	φC	n-φd	φD	φC	φt
φ80	185	150	8-φ19	190	152.5	24	8-φ19
φ100	210	175	8-φ19	229	190.5	24	8-φ19
φ125	250	210	8-φ23	254	216	24	8-φ22
φ150	280	240	8-φ23	279	241.5	26	8-φ22
φ200	330	290	12-φ23	343	298.5	29	8-φ22
φ250	400	355	12-φ25	406	362	30	12-φ25

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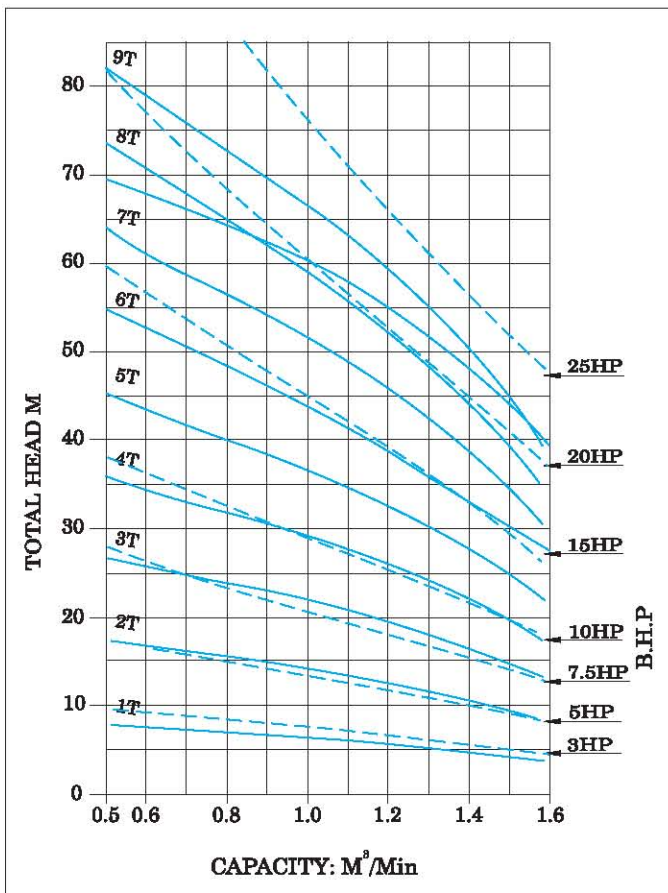
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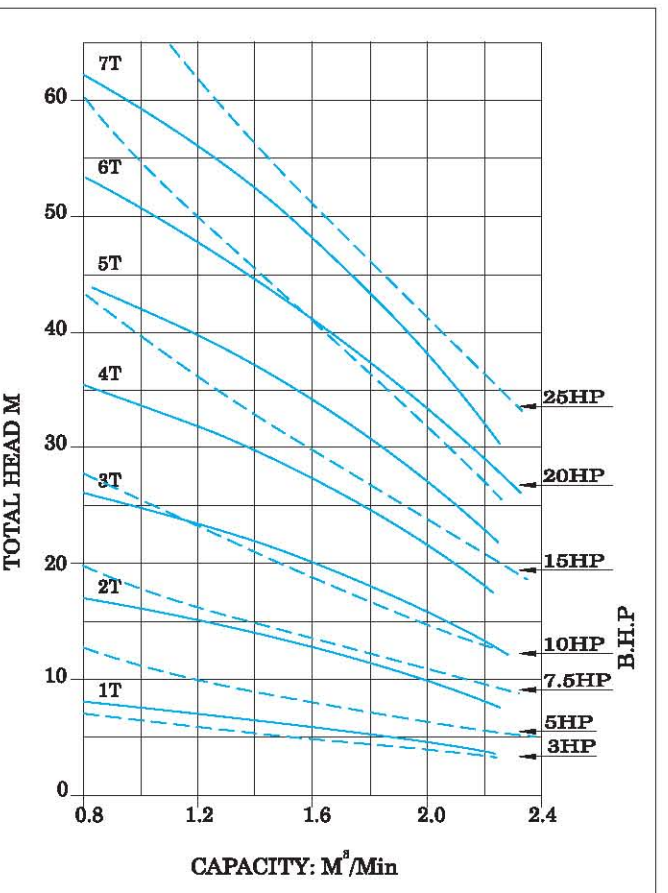
型式 **MVN80** 葉輪 VT-80 ϕ 147* ϕ 140



型式 **MVN100** 葉輪 VT-101B ϕ 170* ϕ 156

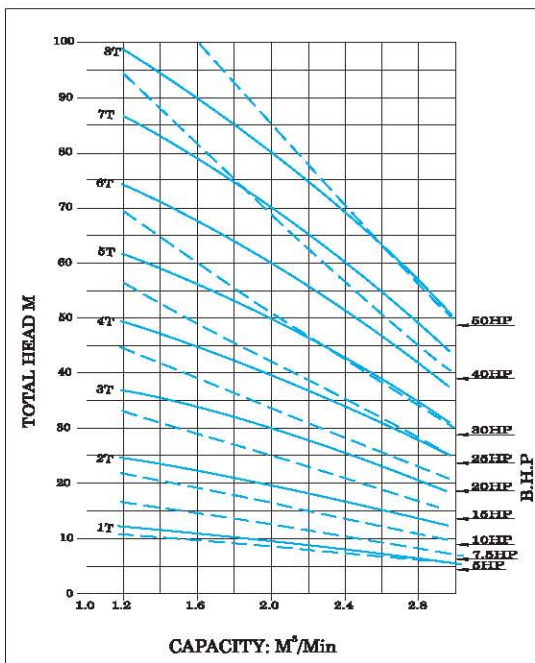


型式 **MVN100A** 葉輪 VT-101 ϕ 184* ϕ 166

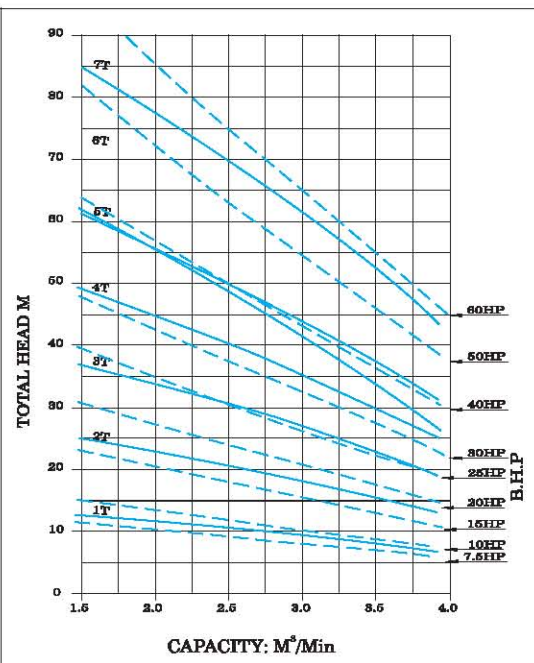


型式 **MVN125** 葉輪 VT-125 ϕ 189* ϕ 168

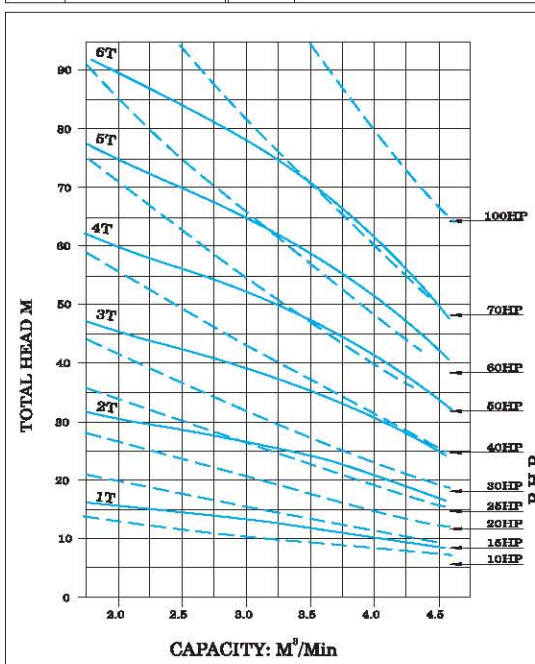
注：上述規格以外之性能、口徑、馬力、極數可依客戶需求制作



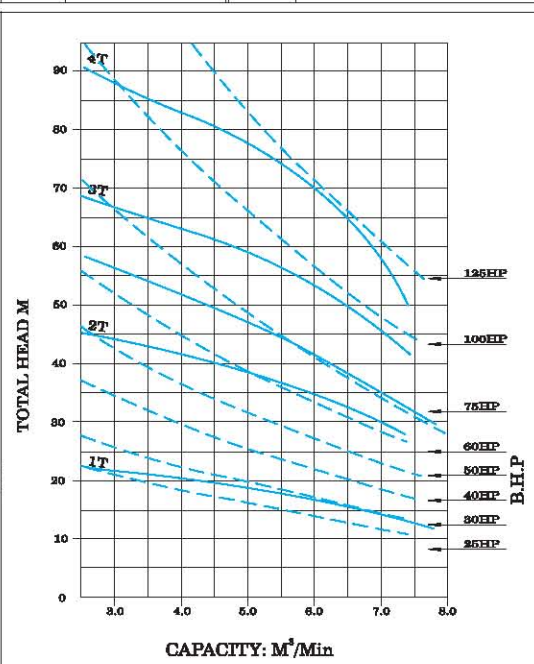
型式 **MVN-150** 葉輪 VT-150A ϕ 215* ϕ 198



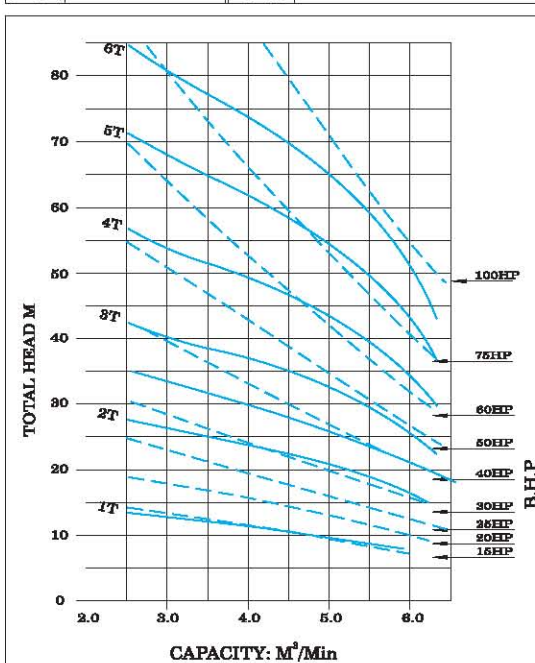
型式 **MVN150A** 葉輪 VT-151A ϕ 216* ϕ 192



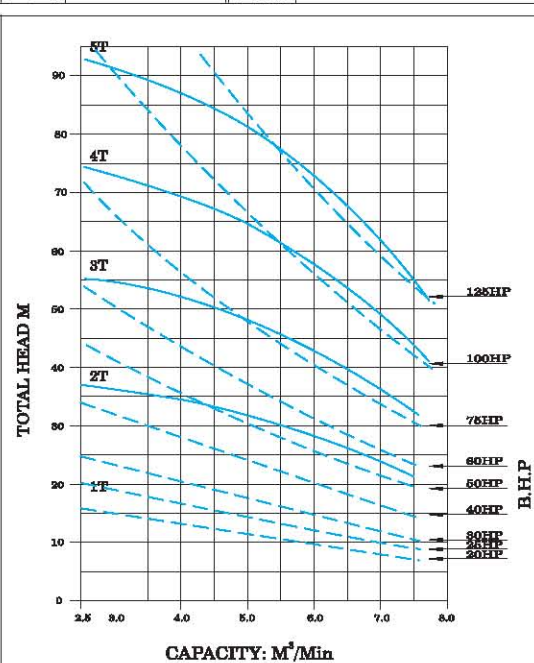
型式 **MVN150B** 葉輪 VT-152 ϕ 246* ϕ 220



型式 **MVN200** 葉輪 VT-202 ϕ 288* ϕ 260



型式 **MVN200A** 葉輪 VT-200 ϕ 235* ϕ 203



型式 **MVN200B** 葉輪 VT-201 ϕ 270* ϕ 245

注：上述規格以外之性能、口徑、馬力、極數可依客戶需求制作

如蒙洽詢請指示下列各項

Request for information

- 1.液體 : _____
- 2.出水量 : ___ m³/ min(US.gpm)
- 3.總揚程 : _____ m(ft)
- 4.液體溫度 : _____ °C(°F)
- 5.液體黏度 : _____
- 6.比重 : _____
- 7.酸鹼度 : _____
- 8.運轉溫度下之蒸氣壓力 :
_____ kg/cm²(psia)
- 9.可用之淨有效吸入揚程 : _____ m(ft)
- 10.泵浦回轉數 : _____ rpm
- 11.額定馬力 : _____ kW(HP), _____ pole
_____ phase, _____ Hz, _____ volts

In sending your enquiry or order please furnish us with the following informations in detail.

- 1.Liquid: _____
- 2.Capacity: ___ m³/ min(US.gpm)
- 3.Total head: _____ m(ft)
- 4.Temperature of liquid: _____ °C(°F)
- 5.Liquid viscosity: _____
- 6.Specific gravity: _____
- 7.pH: _____
- 8.Vapor pressure at operating temperature:
_____ kg/cm² (psia)
- 9.NPSH available: _____ m(ft)
- 10.Pump speed: _____ rpm
- 11.Rated power: _____ kW(HP), _____ pole
_____ phase, _____ Hz; _____ volts

經銷商 :
AGENT